

an electric circuit holding said electrode segments at specific potentials, so as to control the axial potential within the thruster channel.

20. An apparatus according to Claim 19,

such that a potential drop is established between the anode-side emissive electrode and the anode; and

such that said anode-side emissive electrode emits electrons sufficient for ionization of the propellant gas.

ABSTRACT OF THE DISCLOSURE

An apparatus and method for thrusting plasma, utilizing a Hall thruster with segmented electrodes along the channel, which make the acceleration region as localized as possible. Also disclosed are methods of arranging the electrodes so as to minimize erosion and arcing. Also disclosed are methods of arranging the electrodes so as to produce a substantial reduction in plume divergence. The use of electrodes made of emissive material will reduce the radial potential drop within the channel, further decreasing the plume divergence. Also disclosed is a method of arranging and powering these electrodes so as to provide variable mode operation.